

App. Ser. No. 09/915,184

Atty. Docket No. P1292

REMARKS

The Applicants thank the Examiner for withdrawing the previous restriction requirement and considering claims 1-32. Claims 2-6, 13, and 15-22 are canceled, hence claims 1, 7-12, 14 and 23-32 are pending in this application. Claims 1, 7-9, 23, and 26 are amended. Claim 26 has been amended to include a period at the end of the claim. Paragraphs 70 and 73 of the Written Description have been amended as suggested by the Examiner. The undersigned believes these amendments do not add new matter.

Rejection under 35 USC §112

Claims 23-32 stand rejected under 35 USC 112, second paragraph as being incomplete for omitting essential structural cooperative relationships of elements, namely between the laser diode and the fiber.

Claim 23 has been amended to indicate the relationship between the laser diode and the fiber as disclosed in originally filed claim 1.

Provisional Rejection for Obviousness-Type Double Patenting

Claims 23-32 are provisionally rejected under obviousness-type double patenting as being unpatentable over claims 30-33 of copending Application No. 09/915,186, both assigned to JDS Uniphase Corporation. Assignments for 09/915,186 are recorded at reel/frame 012457/0237 and assignments for 09/915,184 are recorded at reel/frame 012469/0071.

A Terminal Disclaimer to Obviate a Provisional Double Patenting Rejection Over a Pending Second Application Under 37 CFR 1.321 is filed together with this amendment with respect to Application No. 09/915,186 to remove this provisional rejection.

Rejection under 35 USC §103

Claims 1, 6, 14-19 and 22 stand rejected as being unpatentable over U.S. Patent No. 5,940,557 by Harker (hereinafter "Harker") in view of U.S. Patent No. 6,400,736 by Aherne et al. (hereinafter "Aherene"). Claims 6, 15-19 and 22 have been cancelled, thus rendering their rejection moot.

Claim 1 has been amended to recite that the lensed fiber end comprises a biconic lens. As discussed in the Written Description at paragraphs 16, 70, and 73, a biconic lens advantageously suppresses the interference caused by the light reflection feedback from the lens on the fiber tip and improves coupling efficiency compared to a chisel or wedged-shaped fiber lens. Use of a biconic lens is nowhere taught or suggested in the prior art of record. Therefore, the Applicants believe that claim 1 and all claims that depend from claim 1 are patentable.

Claim 14 includes the limitations of claim 1 to a laser diode source having a front and back facet with higher reflectance in the back facet than the front. Claim 14 further specifies "a reflective coating provided on a surface of said lensed fiber input end having a third reflectance being greater than the second reflectance of said front facet of said laser diode source."

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It is argued in the Office Action that, "it would have been obvious to one skilled in the art to make the front facet anti-reflecting so that most of the light will go out that side, as taught by the applicant." However, an anti-reflective coating cannot satisfy the requirement of claim 1 for a "laser diode source having a first Fabry-Perot cavity" because the anti-reflective coating would eliminate the resonant cavity of the diode in favor of an external cavity. Although there are structures, such as DFB laser diodes with internal cavities, or external cavity lasers, which use anti-reflective coatings, one skilled in the art would not use an anti-reflective coating on the front facet reflector in the claimed structure as this would reduce the power of the source. The use of differential reflectivities, in particular higher reflectivity on the surface of the lensed fiber than the front facet, to reduce problems arising from phasing between the secondary and the primary FP cavities, as discussed in paragraph 115, is not disclosed in the prior art, and is not obvious from the teaching of the prior art. Such a structure is in fact contrary to obvious coupling techniques. Therefore the Applicants believe claim 14 is further allowable.

Rejection under 35 USC §103

Claims 2-5 are rejected as being unpatentable over Harker in view of Aherne, and further in view of Shimizu. Claims 2-5 have been cancelled, rendering this rejection moot.

Rejection under 35 USC §103

Claim 13 is rejected as being unpatentable over Harker in view of Aherne, and further in view of Roff. Claim 13 has been cancelled, rendering this rejection moot.

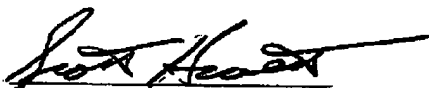
Rejection under 35 USC §103

Claims 20-21 are rejected as being unpatentable over Harker in view of Aherne, and further in view of Verdiell et al. Claims 20-21 have been cancelled, rendering this rejection moot.

Conclusion

Applicant submits that all claims are now in condition for allowance. Favorable reconsideration and timely issuance of a Notice of Allowance is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (707) 591-0789.

Respectfully submitted,



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